

**Notice of Allowability**

Application No.

10/633,201

Examiner

Roberts Culbert

Applicant(s)

KORENEV ET AL.

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 8/22/05.
2. ☒ The allowed claim(s) is/are 6-11, 13 and 15-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_



### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mark Kusner on 8/30/05.

The application has been amended as follows:

**1. Cancel Claim 14.**

**2. Amend Claim 11 to read as follows:**

*A method of forming a microporous fluoropolymer sheet, comprising the steps of:*  
*irradiating a sheet of fluoropolymer at a dosage level below the rupture energy of the carbon-to-fluorine (C-F) bonds of the fluoropolymer, but sufficient to rupture carbon-to-carbon (C-C) bonds; and*  
*exposing the sheet of fluoropolymer to an etchant for a period of time sufficient to etch away disrupted atoms and molecules, wherein continuous micropassages are formed through said sheet, and wherein said etchant is fluorine gas.*

**3. Amend Claim 13 to read as follows:**

*A method of forming a microporous fluoropolymer sheet, comprising the steps of:*  
*irradiating a sheet of fluoropolymer at a dosage level below the rupture energy of the carbon-to-fluorine (C-F) bonds of the fluoropolymer, but sufficient to rupture carbon-to-carbon (C-C) bonds; and*  
*exposing the sheet of fluoropolymer to an etchant for a period of time sufficient to etch away disrupted atoms and molecules, wherein continuous micropassages are formed through said sheet, and wherein said sheet of fluoropolymer is one of several sheets simultaneously exposed to said electrons, and wherein said several sheets of fluoropolymer are layered one on another into a stack and said electrons radiate through said stack.*



***Allowable Subject Matter***

Claims 6-11, 13, and 15-26 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art of record fails to teach a method of forming a microporous fluoropolymer sheet, comprising the steps of irradiating a sheet of fluoropolymer at a dosage level below the rupture energy of the carbon-to-fluorine (C-F) bonds of the fluoropolymer, but sufficient to rupture carbon-to-carbon (C-C) bonds by moving the fluoropolymer sheet past a stationary electron source wherein the source of electrons is a target material exposed to x-rays, or an isotope, and exposing the sheet of fluoropolymer to an etchant for a period of time sufficient to etch away disrupted atoms and molecules, wherein continuous micropassages are formed through said sheet as recited in claims 6 and 7.

The prior art of record fails to teach a method of forming a microporous fluoropolymer sheet, comprising the steps of irradiating a sheet of fluoropolymer at a dosage level below the rupture energy of the carbon-to-fluorine (C-F) bonds of the fluoropolymer, but sufficient to rupture carbon-to-carbon (C-C) bonds and exposing the sheet of fluoropolymer to an etchant for a period of time sufficient to etch away disrupted atoms and molecules, wherein continuous micropassages are formed through said sheet, and wherein said etchant is fluorine gas as recited in claim 11.

The prior art of record fails to teach a method of forming a microporous fluoropolymer sheet, comprising the steps of irradiating a sheet of fluoropolymer at a dosage level below the rupture energy of the carbon-to-fluorine (C-F) bonds of the fluoropolymer, but sufficient to rupture carbon-to-carbon (C-C) bonds; and exposing the sheet of fluoropolymer to an etchant for a period of time sufficient to etch away disrupted atoms and molecules, wherein continuous micropassages are formed through said sheet, and wherein said sheet of fluoropolymer is one of several sheets simultaneously exposed to said electrons, and wherein said several sheets of fluoropolymer are layered one on another into a stack and said electrons radiate through said stack as recited in claim 13.



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The prior art of record fails to teach a method of forming a microporous fluoropolymer sheet, comprising the steps of irradiating a sheet of fluoropolymer at a dosage level below the rupture energy of the carbon-to-fluorine (C-F) bonds of the fluoropolymer, but sufficient to rupture carbon-to-carbon (C-C) bonds, and exposing the sheet of fluoropolymer to an etchant for a period of time sufficient to etch away disrupted atoms and molecules, wherein continuous micropassages are formed through said sheet, and wherein said irradiated fluoropolymer sheet is etched in a liquid etchant within an electric field that produces an electrophoresis effect in said liquid etchant as recited in claim 15.

The prior art of record fails to teach a method of forming a microporous fluoropolymer sheet, comprising the steps of irradiating a sheet of fluoropolymer at a dosage level below the rupture energy of the carbon-to-fluorine (C-F) bonds of the fluoropolymer, but sufficient to rupture carbon-to-carbon (C-C) bonds, and exposing the sheet of fluoropolymer to an etchant for a period of time sufficient to etch away disrupted atoms and molecules, wherein continuous micropassages are formed through said sheet, and wherein said step of irradiating occurs with an oxygen-bearing medium supplied to an area where said fluoropolymer sheet is irradiated as recited in claim 17.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberts Culbert whose telephone number is (571) 272-1433. The examiner can normally be reached on Monday-Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. Culbert



  
**PARVIZ HASSANZADEH**  
**SUPERVISORY PATENT EXAMINER**